

## CLAIMS

What is claimed is:

1. A method for authenticating a mobile communication device (MCD) to a wireless network, comprising:  
transmitting from said wireless network to said MCD a first value; and  
receiving from said MCD at said wireless network a second value, said second value representing a function of said first value, a shared data value that is stored in both said MCD and said wireless network, and at least one metric pertaining to an application program stored in said MCD.
2. The method of claim 1 wherein said application program represents software stored in reprogrammable memory of said MCD, said software being associated with a service requested by a user of said MCD.
3. The method of claim 2 wherein said at least one metric represents a size of said application program.
4. The method of claim 2 wherein said first value is computed by a device associated with said wireless network using said shared data value and a third value, said third value equals said at least one metric pertaining to said application program.
5. The method of claim 4 further comprising calculating, using said device associated with said wireless network, a fourth value using said shared data and said third value, said authenticating being deemed a failure if said second value differs from said fourth value.
6. The method of claim 5 wherein said shared data represents data stored in a manner so as to substantially protect said shared data from being accessible by said user. said shared data being configured never to be transmitted wirelessly from said MCD after said MCD is assigned to said user.

7. The method of claim 1 wherein said wireless network represents a GSM (Global System for Mobile Communication) network, said second value being received by a Mobile Switching Center (MSC) of said GSM network.
8. The method of claim 7 wherein said first value is computed by an Authentication Center of said GSM network.
9. The method of claim 1 wherein said at least one metric represents a size of said application program.
10. The method of claim 1 wherein said MCD is a wireless handset.
11. The method of claim 10 wherein said MCD is one of a laptop computer, a personal digital assistance (PDA), and a portable gaming device.
12. In a mobile communication device (MCD), a method for authenticating said MCD to a wireless network, comprising:
  - receiving from said wireless network at said MCD a first value; and
  - transmitting from said MCD to said wireless network a second value, said second value representing a function of said first value, a shared data value that is stored in both said MCD and said wireless network, and at least one metric pertaining to at least one application program stored in said MCD.
13. The method of claim 12 wherein said at least one application program represents software stored in reprogrammable memory of said MCD, said software being associated with a service requested by a user of said MCD.
14. The method of claim 14 wherein said at least one metric reflects a size of said at least one application program.
15. The method of claim 14 wherein said first value is computed by a device associated with said wireless network using said shared data value and a third value, said third value equals said at least one metric.

16. The method of claim 15 further comprising calculating, using said device associated with said wireless network, a fourth value using said shared data and said third value, said authenticating being deemed a failure if said second value differs from said fourth value.

17. The method of claim 16 wherein said shared data represents data stored in a manner so as to substantially protect said shared data from being acquired by said user. said shared data being configured never to be transmitted wirelessly from said MCD after said MCD is assigned to said user.

18. The method of claim 12 wherein said wireless network represents a GSM (Global System for Mobile Communication) network, said second value being received by a Mobile Switching Center (MSC) of said GSM network.

19. The method of claim 18 wherein said first value is computed by an Authentication Center of said GSM network.

20. The method of claim 12 wherein said at least one metric represents a size of said application program.

21. The method of claim 12 wherein said MCD is a wireless handset.

22. The method of claim 21 wherein said MCD is one of a laptop computer, a personal digital assistance (PDA), and a portable gaming device.

23. An article of manufacture comprising a program storage medium having computer readable code embodied therein, said computer readable code being configured to authenticate a mobile communication device (MCD) to a wireless network, comprising:

computer readable code for receiving from said wireless network at said MCD a first value; and

computer readable code for transmitting from said MCD to said wireless network a second value, said second value representing a function of said first value, a shared data value

that is stored in both said MCD and said wireless network, and at least one metric pertaining to at least one application program stored in said MCD.

24. The article of manufacture of claim 23 wherein said at least one application program represents software stored in reprogrammable memory of said MCD, said software being associated with a service requested by a user of said MCD.

25. The article of manufacture of claim 24 wherein said at least one metric reflects a size of said at least one application program.

26. The article of manufacture of claim 24 wherein said first value is computed by a device associated with said wireless network using said shared data value and a third value, said third value equals said at least one metric.

27. The article of manufacture of claim 26 further comprising computer readable code for calculating, using said device associated with said wireless network, a fourth value using said shared data and said third value, said authenticating being deemed a failure if said second value differs from said fourth value.

28. The article of manufacture of claim 27 wherein said shared data represents data stored in a manner so as to substantially protect said shared data from being acquired by said user. said shared data being configured never to be transmitted wirelessly from said MCD after said MCD is assigned to said user.

29. The article of manufacture of claim 23 wherein said wireless network represents a Global System for Mobile Communication (GSM) network, said second value being received by a Mobile Switching Center (MSC) of said GSM network.

30. The article of manufacture of claim 29 wherein said first value is computed by an Authentication Center of said GSM network.

31. The article of manufacture of claim 23 wherein said at least one metric represents a size of said application program.

32. The article of manufacture of claim 23 wherein said MCD is a wireless handset.
33. The article of manufacture of claim 32 wherein said MCD is one of a laptop computer, a personal digital assistance (PDA), and a portable gaming device.
34. An article of manufacture comprising a program storage medium having computer readable code embodied therein, said computer readable code being configured to authenticate a mobile communication device (MCD) to a wireless network, comprising:  
transmitting from said wireless network to said MCD a first value; and  
receiving from said MCD at said wireless network a second value, said second value representing a function of said first value, a shared data value that is stored in both said MCD and said wireless network, and at least one metric pertaining to an application program stored in said MCD.
35. The article of manufacture of claim 34 wherein said application program represents software stored in reprogrammable memory of said MCD, said software being associated with a service requested by a user of said MCD.
36. The article of manufacture of claim D2 wherein said at least one metric represents a size of said application program.
37. The article of manufacture of claim D2 wherein said first value is computed by a device associated with said wireless network using said shared data value and a third value, said third value equals said at least one metric pertaining to said application program.
38. The article of manufacture of claim 37 further comprising calculating, using said device associated with said wireless network, a fourth value using said shared data and said third value, said authenticating being deemed a failure if said second value differs from said fourth value.
39. The article of manufacture of claim 38 wherein said shared data represents data stored in a manner so as to substantially protect said shared data from being accessible by said user.

said shared data being configured never to be transmitted wirelessly from said MCD after said MCD is assigned to said user.

40. The article of manufacture of claim 34 wherein said wireless network represents a GSM (Global System for Mobile Communication) network, said second value being received by a Mobile Switching Center (MSC) of said GSM network.

41. The article of manufacture of claim 40 wherein said first value is computed by an Authentication Center of said GSM network.

42. The article of manufacture of claim 34 wherein said at least one metric represents a size of said application program.

43. The article of manufacture of claim 34 wherein said MCD is a wireless handset.

44. The article of manufacture of claim 43 wherein said MCD is one of a laptop computer, a personal digital assistance (PDA), and a portable gaming device.

45. The method of claim 34 wherein said at least one metric reflects one of a time stamp and a checksum associated with said at least one application program.